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no. 57

UNITED STATES NAVAL OBSERVATORY
CIRCULAR NO. 57

U. S. Naval Observatory, Washington 25, D. C.

March 4, 1955

SOLAR SUMMARY FOR 1954

The solar circulars which give the daily results of sunspot measures made at the U. S. Naval Observatory have been printed with the aid of punched cards since January, 1950. These cards have also been used to compile the Summary for 1954.

Table I gives the mean values of A , g , s , and r for each month and for the year. Table II gives the same quantities for each day.

Table IIIa summarizes for each day the results for each group which was numbered at Mount Wilson. The first line contains the group number. The other lines list, for the entire group, in successive columns:

1. Date of observation: the month, day, and decimal of a day in U. T.
2. The mean heliographic longitude, L .
3. The mean heliographic latitude, φ .
4. The total area, A .
5. The total spot count, s .
6. The number of parts, p , which were listed separately in the monthly circulars.

The quantities L and φ are the unweighted means of the several parts. Hence, the appearance or disappearance of a small spot may affect the day-to-day values of L and φ . Similarly, these may be apparent changes in these quantities when the group is near the limb and the measures are uncertain.

An entry for January at the end of the table refers to 1955.

Table IIIb gives similar data for the unnumbered groups, that is, those marked by an asterisk in the monthly circulars. These groups generally consisted of a small spot which appeared on one day.

Table IV lists groups which may be recurrent. The data are derived from the Mount Wilson results given in the *Publications of the Astronomical Society of the Pacific*, which should be consulted for details of the recurrences.

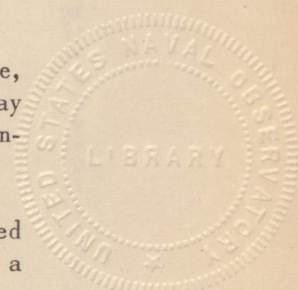


TABLE I MONTHLY SUMMARY

	<i>A</i>	<i>g</i>	<i>s</i>	<i>r</i>
JANUARY	0	0.0	0	0
FEBRUARY	2	0.1	0	1
MARCH	182	0.5	4	9
APRIL	7	0.3	1	4
MAY	1	0.1	0	1
JUNE	0	0.0	0	0
JULY	19	0.5	1	6
AUGUST	75	0.7	4	11
SEPTEMBER	3	0.1	0	1
OCTOBER	37	0.8	2	10
NOVEMBER	70	0.7	2	9
DECEMBER	137	0.6	4	10
Mean	44	0.4	1	5



TABLE II DAILY SUMMARY

Date	A	g	s	r	Date	A	g	s	r
JANUARY					MARCH				
1	0	0	0	0	1	105	1	6	16
2	0	0	0	0	2	170	1	3	13
3	0	0	0	0	3	121	1	2	12
4	0	0	0	0	4	0	0	0	0
5	0	0	0	0	5	0	0	0	0
6	0	0	0	0	6	0	0	0	0
7	0	0	0	0	7	0	0	0	0
8	0	0	0	0	8	0	0	0	0
9	0	0	0	0	9	0	0	0	0
10	0	0	0	0	10	0	0	0	0
11	6	1	2	12	11	0	0	0	0
12	0	0	0	0	12	88	1	6	16
13	0	0	0	0	13	390	1	22	32
14	0	0	0	0	14	689	1	12	22
15	0	0	0	0	15	750	1	16	26
16	0	0	0	0	16	631	1	12	22
17	0	0	0	0	17	639	1	20	30
18	0	0	0	0	18	702	1	16	26
19	0	0	0	0	19	460	1	9	19
20	0	0	0	0	20	388	1	5	15
21	0	0	0	0	21	279	1	4	14
22	0	0	0	0	22	242	1	2	12
23	0	0	0	0	23	0	0	0	0
25	0	0	0	0	24	0	0	0	0
26	0	0	0	0	25	0	0	0	0
27	0	0	0	0	26	0	0	0	0
28	0	0	0	0	27	0	0	0	0
29	0	0	0	0	28	0	0	0	0
30	0	0	0	0	29	0	0	0	0
31	0	0	0	0	30	0	0	0	0
					31	0	0	0	0
FEBRUARY					APRIL				
1	0	0	0	0	1	0	0	0	0
2	0	0	0	0	2	0	0	0	0
3	0	0	0	0	3	0	0	0	0
4	0	0	0	0	4	0	0	0	0
5	0	0	0	0	5	0	0	0	0
6	0	0	0	0	6	12	1	1	11
7	0	0	0	0	7	34	2	4	24
8	40	1	3	13	8	32	1	2	12
9	12	1	1	11	9	72	2	5	25
10	0	0	0	0	10	0	0	0	0
11	0	0	0	0	11	0	0	0	0
12	0	0	0	0	12	0	0	0	0
14	0	0	0	0	13	0	0	0	0
15	0	0	0	0	14	0	0	0	0
16	0	0	0	0	15	24	1	1	11
17	0	0	0	0	16	18	1	3	13
18	0	0	0	0	17	0	0	0	0
19	0	0	0	0	18	0	0	0	0
20	0	0	0	0	19	0	0	0	0
21	0	0	0	0	20	16	1	1	11
22	0	0	0	0	21	0	0	0	0
23	0	0	0	0	22	0	0	0	0
24	0	0	0	0	23	0	0	0	0
25	0	0	0	0	24	0	0	0	0
26	0	0	0	0	25	0	0	0	0
27	0	0	0	0	26	0	0	0	0
28	0	0	0	0	27	0	0	0	0
					28	0	0	0	0
					29	0	0	0	0
					30	0	0	0	0

TABLE II DAILY SUMMARY

Date	A	g	s	r	Date	A	g	s	r
MAY					JULY				
1	0	0	0	0	1	0	0	0	0
2	0	0	0	0	2	0	0	0	0
3	0	0	0	0	3	24	1	1	11
4	0	0	0	0	4	0	0	0	0
5	0	0	0	0	5	0	0	0	0
6	0	0	0	0	6	0	0	0	0
7	0	0	0	0	7	0	0	0	0
8	0	0	0	0	8	48	1	1	11
10	0	0	0	0	9	0	0	0	0
11	0	0	0	0	10	0	0	0	0
12	0	0	0	0	11	0	0	0	0
13	0	0	0	0	12	48	1	1	11
14	24	1	7	17	13	48	1	1	11
15	6	1	1	11	14	133	2	5	25
16	0	0	0	0	15	48	1	1	11
17	12	1	2	12	16	34	1	3	13
18	0	0	0	0	17	40	1	5	15
19	0	0	0	0	18	0	0	0	0
20	0	0	0	0	19	0	0	0	0
21	0	0	0	0	20	0	0	0	0
22	0	0	0	0	21	0	0	0	0
23	0	0	0	0	22	0	0	0	0
24	0	0	0	0	23	0	0	0	0
25	0	0	0	0	24	36	1	2	12
26	0	0	0	0	25	48	1	2	12
27	0	0	0	0	26	18	1	3	13
28	0	0	0	0	27	6	1	1	11
29	0	0	0	0	28	42	1	4	14
30	0	0	0	0	29	16	1	3	13
31	0	0	0	0	30	12	1	3	13
					31	0	0	0	0
JUNE					AUGUST				
1	0	0	0	0	1	194	1	2	12
2	0	0	0	0	2	145	1	2	12
3	0	0	0	0	3	103	1	3	13
4	0	0	0	0	4	97	1	2	12
5	0	0	0	0	5	102	1	16	26
6	0	0	0	0	6	168	1	15	25
7	0	0	0	0	7	102	1	8	18
8	0	0	0	0	8	0	0	0	0
9	0	0	0	0	9	64	1	8	18
10	0	0	0	0	10	145	1	6	16
11	0	0	0	0	11	143	1	10	20
12	0	0	0	0	12	115	1	3	13
13	0	0	0	0	13	24	1	1	11
14	0	0	0	0	14	24	1	1	11
15	0	0	0	0	15	0	0	0	0
16	0	0	0	0	16	0	0	0	0
17	0	0	0	0	17	0	0	0	0
18	0	0	0	0	18	0	0	0	0
19	0	0	0	0	19	0	0	0	0
20	0	0	0	0	20	0	0	0	0
21	0	0	0	0	21	36	1	4	14
22	0	0	0	0	22	316	1	8	18
23	0	0	0	0	23	240	1	13	23
24	0	0	0	0	24	195	1	8	18
25	0	0	0	0	25	46	1	10	20
26	0	0	0	0	26	40	2	4	24
27	0	0	0	0	27	18	1	5	15
28	0	0	0	0	28	0	0	0	0
29	0	0	0	0	29	0	0	0	0
30	0	0	0	0	30	0	0	0	0
					31	0	0	0	0

TABLE II DAILY SUMMARY

Date	A	g	s	r	Date	A	g	s	r
SEPTEMBER					NOVEMBER				
1	0	0	0	0	1	0	0	0	0
2	0	0	0	0	2	0	0	0	0
3	0	0	0	0	3	0	0	0	0
4	24	1	1	11	4	0	0	0	0
5	0	0	0	0	5	12	1	1	11
6	6	1	1	11	6	24	1	1	11
7	0	0	0	0	7	36	1	1	11
8	0	0	0	0	8	24	1	1	11
9	0	0	0	0	9	230	3	11	41
10	0	0	0	0	10	210	2	3	23
11	0	0	0	0	11	521	3	10	40
12	0	0	0	0	12	418	3	11	41
13	0	0	0	0	13	298	3	6	36
14	0	0	0	0	14	205	1	3	13
15	0	0	0	0	15	97	1	1	11
16	0	0	0	0	16	0	0	0	0
17	0	0	0	0	17	16	1	1	11
18	0	0	0	0	18	0	0	0	0
19	0	0	0	0	19	0	0	0	0
20	0	0	0	0	20	0	0	0	0
21	0	0	0	0	21	0	0	0	0
22	0	0	0	0	22	0	0	0	0
23	0	0	0	0	23	0	0	0	0
24	0	0	0	0	24	0	0	0	0
25	0	0	0	0	25	0	0	0	0
26	0	0	0	0	26	0	0	0	0
27	0	0	0	0	27	16	1	1	11
28	0	0	0	0	28	0	0	0	0
29	0	0	0	0	29	0	0	0	0
30	48	1	2	12	30	0	0	0	0
OCTOBER					DECEMBER				
1	0	0	0	0	1	0	0	0	0
2	242	1	3	13	2	0	0	0	0
3	36	1	1	11	3	0	0	0	0
4	0	0	0	0	4	0	0	0	0
5	48	1	3	13	5	0	0	0	0
6	0	0	0	0	6	0	0	0	0
7	0	0	0	0	7	0	0	0	0
8	0	0	0	0	8	0	0	0	0
9	48	1	3	13	10	0	0	0	0
10	0	0	0	0	11	0	0	0	0
11	0	0	0	0	12	0	0	0	0
12	6	1	1	11	13	0	0	0	0
13	60	2	3	23	14	12	1	3	13
14	42	2	2	22	15	239	1	18	28
15	90	3	22	52	16	393	1	6	16
16	133	3	5	35	17	320	2	14	34
17	73	1	2	12	18	435	2	36	56
18	0	0	0	0	19	643	2	6	26
19	36	1	2	12	20	436	2	3	23
20	61	1	3	13	21	0	0	0	0
21	48	1	1	11	22	73	1	2	12
22	48	1	1	11	23	170	1	3	13
23	48	1	2	12	24	48	1	5	15
24	36	1	1	11	25	48	1	1	11
25	56	1	4	14	26	24	1	1	11
26	32	1	1	11	27	0	0	0	0
27	0	0	0	0	28	0	0	0	0
28	0	0	0	0	29	84	1	10	20
29	0	0	0	0	30	556	1	11	21
30	0	0	0	0	31	617	1	9	19
31	0	0	0	0					

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	ϕ	A	s	p	No.	Date	L	ϕ	A	s	p
		$^{\circ}$	$^{\circ}$						$^{\circ}$	$^{\circ}$			
11170	2 8.615	236	+33	40	3	2	11184	7 16.570	286	+ 9	34	3	3
	2 9.645	235	+33	12	1	1		7 17.760	288	+ 9	40	5	2
11171	3 1.750	341	-25	105	6	4	11185	7 24.740	110	+ 9	36	2	1
	3 2.647	341	-24	170	3	2		7 25.577	111	+10	48	2	2
	3 3.805	345	-23	121	2	1		7 26.583	109	+ 7	18	3	2
11172	3 12.709	90	- 8	88	6	4		7 27.598	107	+ 8	6	1	1
	3 13.694	91	- 9	390	22	7		7 28.601	108	+ 6	42	4	4
	3 14.689	89	- 9	689	12	8		7 29.619	107	+ 9	16	3	1
	3 15.621	90	- 8	750	16	8		7 30.553	109	+ 9	12	3	1
	3 16.642	90	- 7	631	12	5	11186	8 1.599	354	+26	194	2	1
	3 17.599	90	- 6	639	20	10		8 2.568	351	+24	145	2	1
	3 18.636	92	- 7	702	16	7		8 3.575	350	+25	103	3	2
	3 19.594	93	- 7	460	9	5		8 4.562	352	+23	97	2	1
	3 20.695	92	- 8	388	5	3		8 5.581	354	+26	102	16	7
	3 21.669	94	- 7	279	4	2		8 6.590	353	+25	168	15	5
	3 22.627	97	- 6	242	2	2		8 7.569	354	+25	102	8	4
11173	4 6.669	101	- 5	12	1	1	11187	8 9.582	322	-24	64	8	5
	4 7.601	99	- 5	22	3	2		8 10.559	322	-23	145	6	5
	4 8.599	103	- 5	32	2	1		8 11.578	321	-23	143	10	4
	4 9.606	105	- 5	36	2	1		8 12.680	321	-24	115	3	2
11174	4 9.606	179	+ 3	36	3	2		8 13.586	324	-23	24	1	1
11175	4 15.604	105	- 3	24	1	1		8 14.628	321	-23	24	1	1
	4 16.591	106	- 4	18	3	2	11188	8 21.585	177	-31	36	4	2
11176	4 20.631	49	0	16	1	1		8 22.671	175	-31	316	8	4
11177	5 14.574	41	+ 4	24	7	4		8 23.608	177	-31	240	13	7
	5 15.822	39	+ 3	6	1	1		8 24.581	175	-31	195	8	3
	5 17.600	43	+ 3	12	2	2		8 25.589	176	-33	46	10	4
11180	7 3.623	55	-22	24	1	1		8 26.549	173	-33	22	2	2
11181	7 8.828	55	+23	48	1	1	11189	8 26.549	56	- 7	18	2	2
11182	7 12.549	2	+26	48	1	1		8 27.626	58	- 6	18	5	2
	7 13.545	4	+26	48	1	1	11190	9 4.593	279	-24	24	1	1
	7 14.567	6	+25	97	3	1		9 6.653	275	-24	6	1	1
	7 15.655	8	+25	48	1	1	11194	9 30.592	309	-33	48	2	2
11183	7 14.567	346	+ 1	36	2	1	11196	10 2.598	253	+32	242	3	2
								10 3.675	254	+36	36	1	1
								10 5.577	244	+35	48	3	2
								10 9.637	251	+32	48	3	2
							11198	10 12.619	197	-35	6	1	1
								10 13.628	195	-35	48	1	1

TABLE IIIa NUMBERED GROUP SUMMARY

No.	Date	L	φ	A	s	p	No.	Date	L	φ	A	s	p
		°	°						°	°			
	10 14,660	196	-36	36	1	1		11 10,617	183	+27	16	1	1
	10 15,603	197	-35	36	3	3		11 11,740	182	+27	24	1	1
	10 16,599	196	-35	48	1	1		11 12,590	182	+27	60	3	2
11200	10 14,660	143	+12	6	1	1	11208	11 11,740	108	-21	36	3	2
	10 15,603	141	+11	18	5	3		11 12,590	108	-22	48	2	2
								11 13,575	107	-22	16	1	1
11201	10 15,603	116	+28	36	14	4	11209	11 13,575	151	+31	52	2	2
	10 16,599	120	+26	61	2	1							
	10 17,683	122	+26	73	2	1	11210	11 17,673	39	-34	16	1	1
11202	10 16,599	105	-21	24	2	1	11211	11 27,676	299	+23	16	1	1
11203	10 19,817	41	+33	36	2	1	11212	12 14,721	81	+34	12	3	1
	10 20,642	42	+33	61	3	1		12 15,692	79	+36	239	18	11
	10 21,650	41	+32	48	1	1		12 16,810	79	+35	393	6	5
	10 22,636	41	+32	48	1	1		12 17,676	77	+36	296	13	8
	10 23,739	40	+32	48	2	1		12 18,674	79	+34	357	27	7
	10 24,737	39	+32	36	1	1		12 19,726	79	+35	461	3	2
	10 25,724	38	+32	56	4	3		12 20,640	78	+35	375	2	2
	10 26,674	38	+32	32	1	1							
11204	11 5,651	275	+25	12	1	1	11213	12 17,676	334	+26	24	1	1
	11 6,661	276	+25	24	1	1		12 18,674	335	+25	78	9	7
	11 7,675	276	+25	36	1	1		12 19,726	335	+25	182	3	3
	11 8,599	278	+26	24	1	1		12 20,640	339	+24	61	1	1
11205	11 9,600	254	+25	48	2	1		12 22,619	340	+24	73	2	1
11206	11 9,600	196	-34	134	4	2		12 23,603	339	+24	170	3	2
	11 10,617	194	-34	194	2	2		12 24,689	339	+24	48	5	1
	11 11,740	194	-34	461	6	5		12 25,730	340	+24	48	1	1
	11 12,590	193	-34	310	6	6	11214	12 29,671	250	-25	84	10	4
	11 13,575	190	-34	230	3	3		12 30,604	250	-24	556	11	6
	11 14,675	190	-35	205	3	3		12 31,612	250	-24	617	9	4
	11 15,571	190	-33	97	1	1		1 1,597	251	-23	508	8	5
11207	11 9,600	182	+26	48	5	3		1 2,758	250	-23	376	5	3
								1 3,610	250	-23	315	5	3
								1 4,603	248	-23	201	5	3

TABLE IIIb UNNUMBERED GROUP SUMMARY

Date	L	φ	A	s	p	Date	L	φ	A	s	p
	°	°					°	°			
1 11,736	188	-2	6	2	1	10 13,628	242	+35	12	2	1
4 7,601	161	-12	12	1	1						

TABLE IV RECURRENT GROUPS

Group	Recurrence of	Group	Recurrence of
11173	11172	11186	11182

Erratum

Circular	Page	Date	Item	Line	For	Read
55	3	Oct. 3, 1954	Number	1	11194	11196